

Arlington Recycling Committee
Minutes of 6/4/15

PRESENT Co-Chair Gordon Jamieson; Recycling Coordinator Charlotte Milan, Susan Stamps (by phone), Larry Slotnick, Karen Einstein, Ellen Callaway, Rebecca Sacks, Pete Howard

MINUTES of 5/7/15 approved as printed. Unanimous

COORDINATOR'S REPORT: Charlotte discussed her monthly report (Ref 1). The predicted annual trash tonnage number based on actuals through April is down to within 0.2% of FY13. In addition, a recycling center to collect rigid plastic, foam, books, textiles, and electronics will open 6/20 in the Town Yard. Temporary storage options were discussed. Members suggested that this report include the monthly actuals from a year ago since significant differences may be related to unusual events in that month. Charlotte also reported that the money collected at the CCD paper shredding station exceeded \$1000. She has ordered 40 composting bins at \$43/bin. This is the second order of these better quality bins.

UPDATES

RECYCLED BEAUTY: Ellen (who was not in the room for this discussion) provided invoices (Ref 2) totaling \$1430.15 before sales tax. These invoices covered exhibition postcard design and printing and steel for the mounting plates. Ellen paid for postage, food and entertainment. The committee voted, 4 to 0, to reimburse her for the invoiced services.

MEMBERSHIP: The moderator has approved the names submitted by Gordon. His official letter has not been received. Charlotte will request Website update.

BUSINESS RECYCLING: Pete & Karen volunteered to tabulate the survey responses over the summer. The results may suggest what, if anything, to do next.

GREEN WORKS TOUR: A dozen people, including Ellen, Karen & Pete had a fine tour. They described the facility (Ref 3).

PLASTIC BAGS: Charlotte plans to print a sticker to be used by JRM when they come across a recycle container with plastic bags inside. The sticker will be attached to the container and will explain that plastic bags cannot be recycled by JRM but can be returned to Stop & Shop. The contents of the container will not be collected. Members questioned the value of this effort since the trash volume will be somewhat increased and it will divert effort from perhaps more productive efforts.

FOOD WASTE COMPOSTING: The Town will not apply for a food waste pilot program grant from DEP. Instead the Town will seek to establish a regional collaboration for a voluntary fee based program. Volunteers will be solicited this summer. The goal is 400 Arlington HHs and a start date of 4/1/16. Members suggested that she coordinate w/ Stop & Shop which has agreed to accept food waste from Brackett School. Larry described the food waste at Trader Joe's where he extracts edible material and delivers to users including the Food Pantry.

3 TRASH BARREL LIMIT: Must be reduced to qualify for DEP grants. Might also encourage recycling. There is a lack of data on how much tonnage is associated with the 2nd or 3d barrel. Estimates are based on a Vision 2020 survey of several years ago. Reduction to two barrels is thought by some to be acceptable to residents. Some believe that 1 barrel would be sufficient. Others feel introducing a 1 barrel limit would ignite a public backlash that would damage the recycling program. The DEP Director is not convinced that the town is ready for a change in the barrel limit. This topic always generates warm discussion in these meetings

PROMOTIONAL ACTIVITIES for next year

- Town Day – Charlotte will request a booth permit
- Bulky waste
- ACMI Recycling Series
- Mounting Recycled Beauty pictures in Town Hall Lobby

Advocate Articles promised at previous meetings (not discussed):

Larry: See something, Say something

Gordon, 2014 Summary article/Collaborative composting

Erika: Life Cycle Issues

NEXT MEETING 9/3 - Meetings held 1st Thursday monthly at 7:30 PM in Town Hall Annex 1st Floor

Ref 1 Coordinator's Report

Ref 2 Recycling Beauty invoices

Ref 3 Green Works Tour Report

Arlington Municipal Solid Waste Tonnage by Waste Category

Subtracting
the 25% of
our waste
that is food

	Trash	Recycling	Yard Waste
FY 2008	16,232	4,639	2,881
FY 2009	15,740	4,165	3,216
FY 2010	15,493	4,244	2,799
FY 2011	14,538	4,395	2,332
FY 2012	14,248	4,652	2,381
FY 2013	12,603	5,278	3,503
FY 2014	12,846	5,271	3,488
FY 2015 est.	12,626	5,306	3,531

Mass MSW Master Plan

Baseline MSW -
2008

in FY14 we are @

(30%) by 2020

(80%) by 2050

Conclusion: to reach 2020 goal we need to reduce
trash by another 1,500 tons.

Arlington Goal

16,232 tons-START

12,846 tons

11,362 tons

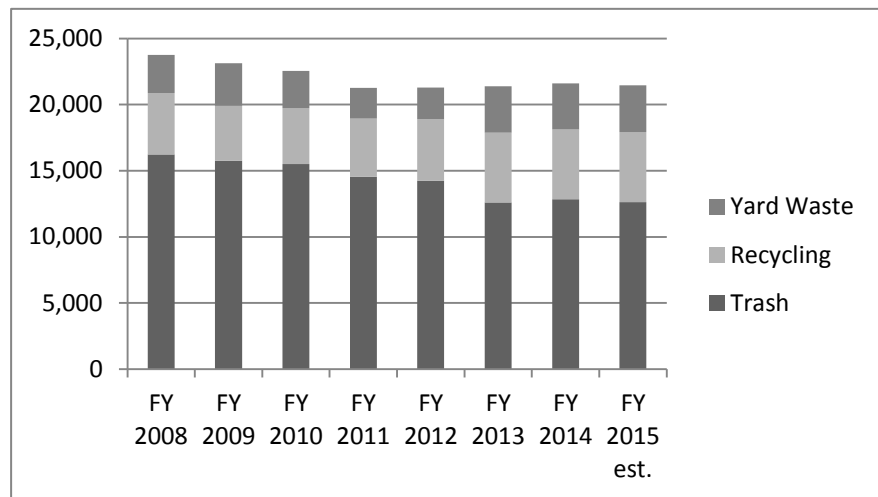
3,246 tons

12,174

9,635 tons

8,522

2,435



Diversion Rate FY2015 est $\frac{(rec+YW)}{(rec+YW+trash)}$ 41%

Recycling Rate FY2015 est $\frac{rec}{(rec+trash)}$ 29%

Monthly Totals

Month	SW Tons	Rec Tons	YW Tons
May	1,148	441	411
June	1,081	481	270
July	1,149	463	312
August	1,032	413	217
September	1,163	439	248
October	1,116	495	447
November	972	476	1072
December	1,141	550	115
January	888	297	65
February	873	401	0
March	977	409	0
April	1,086	441	0
Projected	12,626	5306	3,157

ARC Expense Report

Date	Purchase	Cost
7/1/2014	Start	
11/16/2014	Foam	250
11/16/2014	Rigid bulk	200
5/9/2015-proj.	Foam Recycling	250
5/9/2015-proj.	Rigid bulk	200

Model CCD annual budget- per event

Paper shredding	500
Foam collection	250
Rigid plastic	200
TOTAL	\$950

DPW RC Action Priorities - update

1. Increase curbside monitoring of program compliance:
2. Build on public space recycling opportunities/programs: **no equipment changes since past meeting**
3. Improve compliance and appearance of waste collection on Mass Ave, including business compliance with orange bag program
4. Continue public outreach through media and website publication: **Community Collection Day, Rot and Roll, Recycling Center**
5. Monitor school building compliance with mandatory recycling: **Dallin School Girl Scouts presenting findings to principal**
6. Explore new programs for waste diversion, including rigid plastics, bulkies, food waste, HHW expanded operations, and potential regional CHARM (Center for Hard to Recycle Material): **Recycling Center opening June 20- hurray!**
7. Monitor dumpsters on Town program:
8. Organics awareness: **pre-order program for Earth Machine compost bins is successful, over 50 ordered year to date. Over the summer, names will be collected for residents interested in sharing bins and curbside subscription program. Regional DEP grant will NOT be submitted, but Arlington will look into proceeding with a pilot food waste collection program in collaboration with contiguous communities. DEP emphasizes no near term plans to ban food waste at residential level.**



Green Duck LLC
5225 La Jolla Hermosa Ave
La Jolla, CA 92037

Invoice

Date	Invoice #
02/27/15	1030

Bill To:

Callaway Photo
78 Warren Street
Arlington MA 02474

Project	Job #	Terms
Postcard	CLP-113	Net 15

Description	Amount
Design Recycled Beauty Postcard	300.00
Sales Tax	0.00
Please contact Staci desBouvrie at staci@greenduckstudio.com with any questions.	
Total	\$300.00

Payment may be made by check or electronic transfer

Please make checks payable to Green Duck LLC + mail to address above

Electronic Transfer:

Bank Name: San Diego County Credit Union
Bank Address: 6545 Sequence Drive, San Diego, CA 92121
Routing# 322281617
Bank Account Name: Green Duck LLC
Account# 524119295



Turner Steel Co., Inc.

128 North Main Street
P.O. Box 399
West Bridgewater, MA 02379
Phone: 800-521-8881 Fax: 508-580-4542
Website: <http://www.turnersteelcoinc.com/>

Photography
March 03, 2015
9:50:05AM
Page 1 of 1

Sales Order No. 119874

Bill To Callaway Photo
78 Warren Street
Arlington, MA 02474

Ship To Arlington Town Hall**Early as Possible**
730 Mass Ave
-Call Ellen on way
Arlington, MA 02474
Ellen 617-645-8080

Customer P.O.: Amex
Terms: AMEX
Salesman 1: House House

F.O.B.: Delivered
Order Date: 02/20/2015
Salesman 2: Stephen Turner

Ship Via: Our Truck
Due Date: 03/05/2015
Quotation No.: 220201501

Order Qty	UM	Description	Width	Length	Weight	Price	UM	Extension	Tax
20	P	14 GA HR SHEET ASTM A1011 (2)1/8 Dia Holes drilled each piece - No warping/ bowing	24"	30"	313.00	\$22.00	E	\$440.00	T
1	P	18 GA CR SHEET ASTM A1008 CQ	50"	73"	51.00	\$95.00	E	\$95.00	T

Total Weight 364.00

Subtotal Non taxable	\$0.00
Subtotal taxable	\$535.00
Massachusetts: 6.25%	\$33.44
	\$0.00
Total	\$568.44

Unloading Instructions:

Receiving Hours:

Max Bundle Weight 0 Spacers:

Messages:

Del: Thursday 3/5/15

Prepaid in full with Amex

Thank you

OFFICE COPY



FLAGSHIP

Innovate | Print | Distribute

INVOICE

Sold To

CALLAWAY PHOTO
ELLEN CALLAWAY
78 WARREN STREET
ARLINGTON, MA 02474

Ship To

Customer Code	P.O. Number	Ship Date	Invoice Date	Invoice #	Salesperson	Terms
RICHAR			3/11/15	19668	Richard Downing	COD
Job 18485						

Qty Ordered	Qty Shipped	Description	Unit Price	UM	Amount
2,000	2,000	EXHIBITION POSTCARD	595.150000		595.15
		PAID BY ELLEN CALLAWAY'S MASTER CARD	0.000000		0.00
			Subtotal		595.15
			Sales Tax		37.20
			Total Due		\$632.35

Tour of Green Works
109 Newbury St (Route 1)
5/20/15

About a dozen Arlingtonians mustered at 9:00 AM on the parking lot at Hurd Field including 4 members of the ARC. Charlotte organized us & off we went in 4 cars. GreenWorks is just a little way north of Rt 128. It is a new facility opened in January. The building is 3 stories tall and covers 50,000 sq ft. It has 8 dumping doors on one end (1)* and 3 loading docks at the other end (2). It is painted a dark green, both inside & out. Recycling trucks are weighed coming in on the right, then go around to the front to dump their loads. They are weighed again before leaving.

We were welcomed in the parking lot by GreenWorks tour guides Jimmey (Motzkins?), Tom & Kaitlin who, over the following 2 hrs, showed us the facility, explained the sorting process, and patiently answered many, many questions. (3)

We entered the building and climbed 3 flights of stairs (an elevator is available) to a viewing balcony. Part of the balcony is enclosed making it possible to hear the tour leader. Through the viewing windows we could see most of the equipment. It consists of many conveyer belts that continually divide the recycled material into separate streams until a single material (cardboard, paper, PET, NOPE, etc) is isolated and dumped into its bin. Initially a front end loader loads material onto a conveyor belt that passes by a station where 4 men remove unrecyclable material or material the sorting equipment can't handle: plastic film, garden hoses, rigid plastic. They drop these into shoots leading to bins. The next belt takes the material up a ramp (5) where cardboard goes over the top into the cardboard bin and everything else falls through to another belt. This belt takes the material to a star screen (4), a series of rollers with multi-fingered turning wheels that throw the material up allowing the heavier part, bottles & cans to fall down to one belt while the lighter part goes onto another belt. Steel is removed by a belt magnet that rotates at right angle to the belt carrying the heavier material, sweeping the steel into the steel bin. Further along another device, that we didn't actually see, uses eddy currents to sweep the aluminum into a bin. Somehow, the plastic containers get on a belt that goes under an optical sensor which identifies the #1 plastic (PET) and triggers an air jet that blows each PET item onto the PET belt as the other plastic items drop onto another belt (6). A worker monitors the PET belt to remove any non-PET material before the belt dumps into the PET bin (7). The other belt goes under another optical sensor that picks out the #2 plastic (HDPE) and uses air jets to blow the HDPE onto the HDPE belt while the rest goes into a trash bin. The HDPE belt goes by a worker who sweeps the white HDPE into one bin while the colored HDPE falls into another. These optical sorters will not recognize dirty plastic so we should clean plastic before putting it curbside.

The paper that was separated from the other material at the star screen goes through a manned station where unwanted material is removed and then into the

paper bin. We saw some bales of material but did not see the balers in action. At some point the glass is crushed and dumped into a pile of “fines”.

The facility works 10 hour shifts, which includes 2 hrs of overtime, 5 days a week. There are about 25 workers per shift (8). They earn \$10 to \$11 per hour as prisoners on work release. The facility handles \$1200 T/day. GreenWorks is a separate company owned by the Motzkins who also own JRM Hauling. The 50,000 sq ft facility cost \$23m. Recycling education is a goal of the facility hence the excellent viewing balcony & nearby catwalks. A separate building is being built that will offer a place to welcome visitors, especially including school groups, and to present graphic descriptions of the process. Kaitlin will run this part of the business.

The sorting equipment is designed and manufactured by Bollingraaf Recycling Solutions, a company based in the Netherlands. They feature made to order turnkey systems. Their website, bollingraaf.com, provides a more complete description of their single stream system, and a downloadable brochure.

* The numbers in parenthesis refer to photos in a PowerPoint file that is available at the following link:

<https://www.dropbox.com/s/w7x8pps3usrowso/GreenWorksPhotos.pptx?dl=0>